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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,274	03/03/2004	Ryoji Ninomiya	008312-0308597	8948
909	7590	09/18/2006		
PILLSBURY WINTHROP SHAW PITTMAN, LLP P.O. BOX 10500 MCLEAN, VA 22102				
			EXAMINER WALKER, KEITH D	
			ART UNIT	PAPER NUMBER

1745

DATE MAILED: 09/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/791,274

Applicant(s)

NINOMIYA ET AL.

Examiner

Keith Walker

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 4-19 and 21-33 is/are pending in the application.
- 4a) Of the above claim(s) 4-17 and 25-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18, 19 and 21-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Remarks***

Claims 4-19 & 21-33 are pending in the application and claims 4-17 & 25-33 are withdrawn from consideration. Claims 18, 19, 21-24 are pending examination.

### ***Information Disclosure Statement***

The information disclosure statement filed on 5/24/06 has been placed in the application file and the information referred to therein has been considered as to the merits.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 18, 19 & 21-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 18, it is unclear if the statement in brackets "[indicating the remaining amount of fuel sensed by the sensing unit]" is a positive limitation. It is not clear from the language if this statement is supposed to be further limiting to the claim.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 18, 19 & 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,057,051 (Uchida).

Uchida describes a personal computer, which has a body having a display unit and a controller. A detachable fuel cell unit powers the computer and comprises a fuel cell, a fuel tank and a sensor for detecting the amount of fuel remaining (Fig. 1; 3:1-40, 7:39-54). The sensor detects the amount of fuel remaining and a control unit relays the information from the sensor to the display unit (7:39-54). The status of low fuel on the display unit would prompt one to replace the fuel in order to keep the apparatus working. A replaceable fuel tank supplies the fuel cell with the appropriate fuel (7:33-37). If no fuel tank is present then the sensor shows a low fuel status on the display, indicating a bad connection or no connection of the fuel tank to the apparatus. It is inherent that a personal computer has a memory and a processing unit (CPU) to operate the functions of the computer and fuel cell system, such as calculating the amount of fuel remaining, operating times and operating conditions (7:39-60).

Concerning claim 24, the limitations are seen as a process of operating and while the limitations have been considered, they are not given patentable weight. The process of operating the apparatus does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

Uchida is silent to the use of a storage unit for storing the information relating to the amount of fuel. However, Uchida does teach calculating the remaining operating

time based on detecting a multitude of operating parameters such as fuel pressure, fuel flow rate and amount of water formed by the fuel cell. After the detection of each of the operating parameters, which would be run at multiple predetermined times so an "live" remaining operating time can be displayed, the controller would store the information so calculations could be performed to send the remaining time to the display. Since Uchida teaches the electronic apparatus to be a personal computer, it inherently has a temporary memory for storage called cache. The cache provides the storage means for storing the operating information. Furthermore, other data is collected and used for determining operating times and conditions such as the voltage and current of the fuel cell, the temperature and fan operation condition. It would be obvious to one skilled in the art to have the collected data stored for calculating status conditions such as operating times.

2. Claims 18, 19 & 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,057,051 (Uchida) in view of US Patent 6,522,955 (Colborn).

The teachings of Uchida as discussed above are incorporated herein.

Uchida is silent to the use of a storage unit for storing the information relating to the amount of fuel.

Colborn teaches a fuel cell unit having a fuel cell, a fuel tank, sensors and a communication device having a memory. The communication device is part of the fuel cell and communicates with the sensors that detect and store information on the

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operational parameters of the system such as the fuel storage unit, and communicating the data with other communication devices, such as a display device (Fig. 1 & 2; 4:15-35, 7:55-8:7, 9:12-30). One such operational parameter of a fuel storage unit would be the detection of remaining fuel. A controller compares the stored data against preset control parameters. Since the data comprises information such as environmental conditions, operating parameters and control parameters (4:45-68), it is obvious to one skilled in the art to acquire this information multiple times at predetermined times throughout the operating time of the electronic apparatus. The motivation to use a fuel cell unit with a storage unit, as part of the fuel cell unit is to provide a power management system that is compact and efficient and provides controlled and monitored information to a user for easier use (3:55-4:15).

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the fuel cell unit of Uchida with the storage unit of Colborn to improve the performance of the fuel cell unit by providing a better power management system that is more compact and efficient.

### ***Response to Arguments***

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keith Walker whose telephone number is 571-272-3458. The examiner can normally be reached on Mon. - Fri. 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

K. Walker

  
PATRICK JOSEPH RYAN  
SUPERVISORY PATENT EXAMINER